

L 6023-65

ACCESSION NR: AT5019607

ENCLOSURE: 01

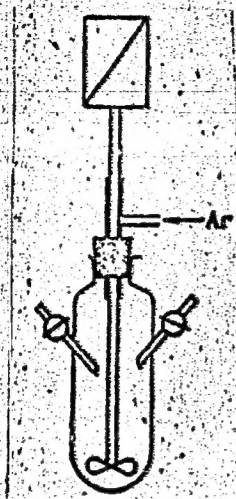


Fig. 1. Device for reacting  $\text{VOCl}_3$  with organoaluminum compounds.

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L 60204-65 ENT(m)/EPF(L)/ENG(m)/ENP(j)/I/ENP(t)/ENP(b) Pc-4/Pr-4 IJP(c)  
 DS/JD/WT/JG/GS/RM  
 UR/0000/67/000/000/0112/0118  
 ACCESSION NR: AT5019608

AUTHOR: Petrov, G. N.; Korotkov, A. A.

TITLE: Polymerization of isoprene with catalysts based on vanadium trichlorooxide

SOURCE: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka.  
 Polimerizatsiya izoprena kompleksnymi katalizatorami (Polymerization of Isoprene by  
 complex catalysts). Moscow, Izd-vo Khimiya, 1964, 112-116

TOPIC TAGS: isoprene polymerization, kinetics, rubber, vanadium trichlorooxide,  
 aluminum trialkyl

ABSTRACT: Kinetics of isoprene polymerization was studied in a benzene solvent at  
 20°C and at an initial monomer concentration of 4.0 mol/l. Two catalyst systems  
 were used: 1.  $R_3Al/VOCl_3$ , and 2.  $R_2AlCl/VOCl_3$ . The ratio of the individual cata-  
 lyst components was varied but the concentration of  $VOCl_3$  was equal to 30.017 mol/l  
 in all experiments conducted with catalyst based on  $R_3Al$  and was equal to 0.0085  
 mol/l in all experiments conducted with catalysts based on  $R_2AlCl$ . According to the  
 IR spectroscopic examination, polymers obtained with  $R_3Al/VOCl_3$  1 are structurally  
 identical to the natural gutta-percha. Ratios of  $R_3Al/VOCl_3$  smaller than 1 and sub-

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stitution of  $R_2AlCl$  for  $R_3Al$  resulted in formation of benzene-insoluble polymers with an undefined structure. The most active polymerization catalyst results from an equimolar ratio of  $R_3Al$  to  $VOCl_3$ . Polymerization activity declines with an increase of the  $R_3Al$  to  $VOCl_3$  ratio. This is due to a reduction in concentration of the insoluble complexes  $VOCl_3 \cdot Al(OR)R$  and  $VOCl_2 \cdot Al(OR)R_2$ , both being isoprene polymerization inhibitors. Orig. art. has: 7 figures.

ASSOCIATION: none

SUBMITTED: 24Oct64

ENCL: 00

SUB CODE: MT, GC

NO REF SOV: 002

OTHER: 003

Card 2/2

L 60205-65  
WJ/CS/JAJ/EM

EWI(m)/EPF(c)/ENG(m)/EPR/ENP(j)/T/ENA(c)

PC-4/PT-4/PS-4 RPL DS/

ACCESSION NR: AT5019609

UR/0000/64/000/000/0119/0129

AUTHOR: Petrov, G. N.; Korotkov, A. A.

TITLE: Kinetics of isoprene polymerization with complex catalysts prepared from triethyl aluminum and vanadium trichlorooxide

SOURCE: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka. Polimerizatsiya izoprena kompleksnymi katalizatorami (Polymerization of isoprene by complex catalysts). Moscow, Izd-vo Khimiya, 1964.

TOPIC TAGS: isoprene, polymerization, complex catalyst, triethyl aluminum, vanadium trichlorooxide, catalysis

ABSTRACT: Kinetics of isoprene polymerization was studied in benzene solution in the 50-40°C range. The monomer concentration varied from 2.5 to 7.5 mol/l and the catalyst concentration varied from 0.017 to 0.041 mol/l. Two catalyst systems were used: 1. an equimolar mixture of  $(C_2H_5)_3Al$  and  $VOCl_3$ , and 2. a complex catalyst  $\beta-TiCl_3/(iso-C_4H_9)_2AlCl$ . The latter was less active for isoprene polymerization than the former. Substantial differences in kinetics obtained with these two catalyst systems indicate that a different polymerization mechanism is responsible in

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L 60207-65 EWT(m)/EPF(c)/T/EWP(j) PC-4/Pr-4 GS/JAJ/RM  
 ACCESSION NR: AT5019611 UR/0000/64/000/000/0139/0150  
 AUTHOR: Korotkov, A. A.; Vasil'yev, A. A.; Prokof'yev, V. D.; Timofeyeva, N. P.  
 TITLE: Polymerization of isoprene with complex catalysts in various solvents  
 SOURCE: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka.  
 Polimerizatsiya izoprena kompleksnymi katalizatorami (Polymerization of Isoprene by  
 complex catalysts). Moscow, Izd-vo Khimiya, 1964, 139-150  
 TOPIC TAGS: isoprene polymerization, solvent, complex catalysts  
 ABSTRACT: Polymerization of isoprene was studied at 20°C in the following solvents:  
 butane, pentane, hexane, heptane, octane, isopentane, isooctane, and cyclohexane.  
 A complex of general formula  $AlR_3 \cdot TiCl_4$  was used as catalyst. The degree of con-  
 version and the polymer molecular weight were monitored as a function of time dur-  
 ing 2 hour polymerization experiments in various solvents. At 20°C, the degree of  
 isoprene conversion and the average molecular weight of polymer is determined by  
 the solubility and the rate of dissolution of the product polymer in the respective  
 solvent. In all solvents the rate of isoprene polymerization increases with tem-  
 perature. At given conditions (constant temperature of polymerization), the degree  
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L 60207-65

ACCESSION NR: AT5019611

of conversion of isoprene in various solvents decreased in the following sequence: pentane, hexane, heptane, isopentane, butane, octane, isooctane, and cyclohexane. Up to a certain conversion level the average molecular weight of polymer remains constant in all hydrocarbon solvents of normal structure and in cyclohexane. At higher conversion levels there is a decline in the polymer average molecular weight. The highest plateau of the average molecular weight was achieved in n-heptane. The next was hexane followed by pentane. In the case of solvents with an iso-structure, the polymer average molecular weight continually declines from the highest value at the beginning of polymerization. This decline is greater in isooctane than in isopentane. Isopentane solvent gives the highest initial value of polymer molecular weight among all solvents used in this study. Overall, normal pentane and hexane were best solvents from the point of view of conversion to polymer as well as polymer molecular weight. Orig. art. has: 17 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 24Oct64

ENCL: 00

SUB CODE: MT, GC

NO REF SOV: 000

OTHER: 004

Card 2/2

L 63038-65 EPE(c)/ENP(j)/ENT(m)/T Fe-4/Pr-4 RPL JAJ/RM

ACCESSION NR: AP5013058

UR/0190/65/007/005/0843/0846  
66.095.264-678.01:53+678.744

AUTHORS: Azimov, Z. A.; Mitsengendler, S. P.; Korotkov, A. A.

TITLE: Catalytic polymerization of tert. butyl methacrylate and the structure of the resultant polymers

SOURCE: Vysokomolekulyarnyye soedineniya, v. 7, no. 5, 1965, 843-846

TOPIC TAGS: polymerization, resin, methacrylate, polymeric structure

ABSTRACT: The purpose of the investigation was to determine the effect of chain-branching of the alkyl radical of the ester group in the alkylmethacrylates during catalytic polymerization on the structure of the resulting polymer. Polymerization of tert. butylmethacrylate (A) was carried out under two conditions leading to the formation of isotactic and syndiotactic polymers respectively. The experimental procedure was that of Z. A. Azimov, A. A. Korotkov, and S. P. Mitsengendler (Izv. AN SSSR, seriya khimich., 1964, 55). The polymers obtained were characterized in terms of: optical anisotropy of solutions, photoelastic effect in films, dielectric loss, dipole moments, and density. Polymerization of A at -50C in toluene in the presence of butyllithium yields an isotactic polymer, whereas

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ACCESSION NR: AP5013058

polymerization in tetrahydrofuran in the presence of sodium naphthalinate or in liquid ammonia in the presence of metallic lithium yields a syndiotactic polymer. X-ray analysis showed that the polymers were amorphous. It is concluded that the structure of the alkyl radicals of the ester groups in the alkylmethacrylates has no effect on the direction of polymerization. The experimental results for the formation of the isotactic polymer confirm the hypothesis of C.E.H. Bawn and A. Ledwith, (Quart. Revs, 16, 361, 1962). It is suggested that the  $\alpha$ -methyl group is responsible for the formation of the isotactic polymer. Orig. art. has: 1 table, 1 graph, and 1 illustration.

ASSOCIATION: Institut vysokomolekulyarnykh soedineniy AN SSSR (Institute for High Molecular Compounds, AN SSSR)

SUBMITTED: 13Jul64

ENCL: 00

SUB CODE: 00, GC

NO REF SOV: 010

OTHER: 004

KE  
Card 2/2



KOROTKOV, A.A.; AZIMOV, Z.A.; MITSENGENDLER, S.P.

Butyllithium-catalyzed polymerization of phenyl methacrylate.  
Vysokom. soed. 7 no.8:1326-1331 Ag '65. (MIRA 18:9)

1. Institut vrysokomolekulyarnykh soyedineniy AN SSSR.

KOROTKOV, A.A.; ROGULEVA, L.F.

Synthesis of 2-tert-butyl-1,3-butadiene. Zhur. org. khim. 1  
no.7:1180-1182 J1 '65. (MIRA 18:11)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.

L 26110-65 ENT(m)/EFF(e)/EMP(j) Pc-4/Pr-4 RM

ACCESSION NR: AP5002921

S/0138/65/000/001/0012/0014

AUTHOR: Kovalev, N. F., Korotkov, A. A., Reykh, V. N.

TITLE: A method for preparing rubber based on SKI-3 which prevents the degradation of polymer chains during rubber processing

SOURCE: Kauchuk i rezina, no. 1, 1965, 12-14

TOPIC TAGS: rubber production, polymer degradation, synthetic rubber, polyisoprene, vulcanization, rubber mechanical property SKI-3 rubber

ABSTRACT: A method for preparing rubber mixes and vulcanizates from synthetic polyisoprene SKI-3 without causing degradation or decreases in molecular weight was developed. The cut sample (20-30g) and a benzene-insoluble activator were placed into a stainless steel cell equipped with a blade impeller (35-46 rpm), evacuated 3-4 times and purged with argon, and mixed with 400-500 wt.% benzene distilled in an argon atmosphere; vulcanizing agent, accelerator and plasticizer were added, the polymer was allowed to swell for 2-3 days, mixed 20-30 minutes and dried under decreased pressure with purging by argon. The molecular weight of samples prepared by this method was virtually unchanged, whereas that of milled

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ACCESSION NR: AP50C2921

samples decreased markedly. A mixture of 100 g polymer, 1 g sulfur, 0.6 g Altax, 3 g diphenylguanidine, 5 g zinc oxide and 1 g stearic acid vulcanized in 15-30 minutes at 154°C. The tensile strength of specimens with high molecular weight and an intrinsic viscosity higher than 3 decreased markedly when they were vulcanized after pressing in the form instead of being passed 2-4 times through a laboratory calender with a 0.7-0.75 mm mesh before vulcanization. Therefore, the latter method was used on specimens subjected to tests for tensile strength and elongation, while elasticity was determined after pressing in the cold form before vulcanization. Orig. art. has: 1 figure and 3 tables.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kau-  
chuka im. S.V. Lebedeva (All-Union Synthetic Rubber Scientific Research Institute)

SUBMITTED: 00

ENCL: 00

SUB CODE: MT

OTHER: 005

OTHER: 000





ACC NR: A57000909

(A)

SOURCE CODE: UR/6138/66/000/612/0002/0005

AUTHOR: Kovalev, N. F.; Korotkov, A. A.; Petrov, G. N.; Reykh, V. N.; Lisochkin, G. F.; Bugina, L. V.; Eventova, L. A.

ORG: All-Union Scientific Research Institute of Synthetic Rubber im. S. V. Lohodev (Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kachuka)

TITLE: Preparation and properties of butadiene-isoprene block polymers

SOURCE: Kauchuk i rezina, no. 12, 1966, 2-5

TOPIC TAGS: butadiene, isoprene, block copolymer, polymer physical property

ABSTRACT: A method was developed for preparing butadiene-isoprene block polymers in sufficient quantities to study their basic physicomachanical properties. The block polymerisation was carried out in a 50% isopentane solution in the presence of an organolithium catalyst, and the properties of the polymers were studied as functions of the monomer ratio and quantity of blocks in the polymer chain. From the standpoint of microstructure, the blocks of polyisoprene and polybutadiene are practically analogous to mixtures of isoprene-butadiene homopolymers obtained on the organolithium catalyst. From the standpoint of the properties of the vulcanizates, the synthesized block polymers practically do not differ from the properties of mechanical mixtures of the homopolymers and are entirely determined by the butadiene-to-isoprene ratio.

Card 1/2

UDC: (678.762.2+678.762.3):678.078.24.004.12

ACC NR: AP7000909

Orig. art. has: 6 figures and 1 table.

SUB CODE: 11/ SUBM DATE: 22Feb66/ ORIG REF: 002

Card 2/2

KOROTKOV, A. F.

Korotkov, A. F. - "An experiment on obtaining a large harvest of winter rye by the field-husbandry brigade of the "Socialism" kolkhoz of the Gorno-Mariysk rayon," Doklady 2-y Resp. s'grotekhn. konf-tsii Mariysk ASSR, Kozmodem'yansk, 1948, p. 114-17

SO: U-3600, 10 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 6, 1949).

GAABE, Yu.E.; KAZARINA, A.K.; KIPERMAN, G.Ya.; MALYI, I.G.;  
ROZENTAL', O.E.; KOBOTKOV, A.F., retsenzent;  
TITEL'BAUM, N.P., retsenzent; TRUKHANOVA, A.N., red.;  
IL'YUSHENKOVA, T.P., tekhn. red.

[The theory of statistics] Teoriia statistiki. [By] IU.E.  
Gaabe i dr. Pod red. I.G.Malogo. Moskva, Iskusstvo, 1963.  
398 p. (MIRA 16:5)

(Statistics)

KOROTKOV, Aleksandr Filippovich; SPITSYNA, A., red.; SHLYK, M.,  
tekhn. red.

[The pulse of our city]. Pul's zhizni nashego goroda. Moskva, Mosk. rabochii, 1963. 109 p. (MIRA 16:5)

1. Nachal'nik Moskovskogo gorodskogo statisticheskogo upravleniya  
(for Korotkov). (Moscow--Economic conditions)



PERGOLIN, A. I.

21002 PERGOLIN, A. I. Ob uchebnykh bluzhdaniyakh nervov v innervatsii stenki kishechnika.  
Yab: Voprosy morfologii. M., 1949, s. 87-103. - Bibliogr: 16 nazv.

SC: Ito iz Zhurnal'nykh Statey, No. 26, Moskva, 1949.

**MESHCHERYAKOV, A.M.; KOROTKOV, A.G.**

**Role of the posterior spinal radices in innervation of the gastro-intestinal system. Fisiol. zh. SSSR 39 no.4:443-450 July-Aug 1953.  
(CIWL 25:1)**

**1. Department of Human Anatomy and Department of Physiology of Kazan' State Medical Institute.**

KOROTKOV, A. G., Doc of Med Sci -- (diss) " Data on parasympathotic innerva-  
tion of the intestines." Kazan', 1957, 26 pp (Chair of Normal/<sup>Human</sup>Anatomy  
and Chair of Normal Physiology, Kazan' State Medical Institute),  
(KL, 31-57, 105)

S-3

USSR/Human and Animal Morphology. Nervous System.  
Peripheral Nervous System

Abs Jour: Ref Zhur - Biol., No 19, 1958, 88409

Author : Meshcheryakova, A. M.; Korotkov, A. G.

Inst : Kazan Medical Institute

Title : On the Morphology of the Posterior Spinal Roots

Orig Pub: Sb. nauchn. rabot. Kazansk. med.-int, 1957, vyp.  
4, 35-41

Abstract: In 20 cats and dogs, 2-3 pairs of the posterior spinal roots (PSR) were sectioned proximally through their ganglia, extra- and intradurally, in the thoracic and lumbar areas. The anterior roots, the PSR, the peripheral sympathetic trunk, the splanchnic nerves and the solar plexus were investigated, following the method of Bil'shovskiy-Gross. It is the opinion of the authors that there are no parasympathetic fibres in the structure of PSR, and

Card 1/2

USSR/Human and Animal Morphology. Nervous System. Peri- S-3  
pheral Nervous System

Abs Jour: Ref Zhur - Biol., No 19, 1958, 88114

Author : Korotkov, A. G.

Inst : Kazan Medical Institute

Title : Experimental Morphological Data on the Distribu-  
tion of Nervous Conductors of the Solar Plexus  
in the Gastric Wall

Orig Pub: Sb. nauchn. rabot. Kazansk. med. in-t, 1957, vyp.  
4, 42-59

Abstract: In 8 cats, the right semilunar ganglia (RSG) were re-  
moved, and in 8- the left (LSG); in 3- the cranial  
mesenteric ganglion (CMG); in 3- the subdiaphragma-  
tic section of the great splanchnic nerve (GSN); in  
4- the ganglia of the lumbar segment of the sympa-  
thetic trunk (GST) were removed; and in 15- the veri-

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KOROTKOV A.G.

USSR / Human and Animal Morphology - Nervous System.

8

Abs Jour : Ref. Zhur. - Biol., No. 22, 1958, 101481

Author : Meshcheryakov, A. M. ; Korotkov, A. G.

Inst : Kazan Medical Institute

Title : Experimental Morphological Materials Toward the  
Study of the Sources of Innervation of the Ductus  
Deferens.

Orig Pub : Sb. nauchn. rabot, Kazansk. med. in-t, 1957, No.  
4, 60-69

Abstract : In 55 cats and dogs the hypogastric and pudendal  
nerves were transected, along with the anterior  
roots of the sacral division of the spinal cord,  
the ductus deferens (DD), and the internal sper-  
matic artery. In addition, the ganglia of the  
sacral division of the truncus sympathicus were  
removed, as well as the pelvic plexus and the

Card 1/3

20

USSR / Human and Animal Physiology (Normal and Pathological). Effect on Physical Factors. Ionizing Irradiations. T

Abs Jour: Ref Zhur-Biologiya, No 21, 1958, 98042

Author : Murat, V. N.; Korotkov, A. G.; Sultanova-Valeyeva, Kh. G.

Inst : Kazan Medical Institute

Title : On Morphologic Changes in the Region of Peripheral Nervous System in Experimental Acute Radiation Sickness in Animals

Orig Pub: Sb. nauchn. rabot Kazansk. med. in-t, 1957, vyp.4, 125-134

Abstract: No abstract

Card 1/1

REVUTSKAYA, P.S. (Stavropol' krayevoy, ul. Lenina, 278); KOROTKOV, A.G.  
(Stavropol' krayevoy, ul. Zootehnicheskaya, 18)

"Organs of the mammalian organism and their function" by L.P.  
Astanin. Reviewed by P.S.Revutskaia, A.G.Korotkov. Arkh.anat.  
gist.i embr. 38 no.2:102-103 F '60. (MIRA 14:6)  
(MAMMALS—ANATOMY) (ASTANIN, L.P.)

MESHCHERYAKOV, A.M.; KOROTKOV, A.G.

Valerii Nikolaevich Murat; on his 60th birthday. Arkh.anat.gist.1  
embr. 39 no.11:128 N '60. (MIRA 14:5)  
(MURAT, VALERII NIKOLAEVICH, 1900-)

KOROTKOV, A.G., prof.

Development of the neuroreceptor apparatus of the aortic wall in phylogenesis. Uch. zap. Stavr. gos. med. inst. 12:122-123 '63.

New data on the innervation of the stomach by vagus nerves. Ibid.:124-125 (MIRA 17:9)

1. Kafedra anatomii cheloveka (zav. prof. A.G. Korotkov)  
Stavropol'skogo gosudarstvennogo meditsinskogo instituta.



KOROTKOV, A.G. (Stavropol' na Kavkaze, ulitsa Lenina, 237-A, kv.31)

"Bibliography of Soviet literature on human anatomy" by P.O. Isaev. Reviewed by A.G. Korotkov. Arkh. anat., gist. i embr. 45 no.7:123-124 Je '63. (MIRA 17:4)

KOROTKOV, A.G. (Anzan', Tatarskaya ASSR, ul. Tokayevskaya, 13, kv.9)

Innervation of the aortic wall in the frog. Arkh. anat. gist.  
i embr. 45 no.11:98-101 N '63. (MIRA 17:8)

1. Kafedra anatomii cheloveka (zav. -- prof. A.G. Korotkov)  
Stavropol'skogo meditsinskogo instituta.

KOROTKOV, A.G.

Afferent innervation of the arterial wall and vegetative ganglia  
of the mesentery of the small intestine. Nauch. trudy Kaz. gos.  
med. inst. 14:209-211 '64. (MIRA 18:9)

1. Kafedra anatomii cheloveka (zav. - prof. A.G.Korotkov)  
Kazanskogo meditsinskogo instituta.

KOROTKOV, A.G., glavnyy metallurg.

Tasks in expanding the production line system in manufacturing  
farm machinery. Sel'khozmašina no.3:25-27 Mr '57. (MLRA 10:5)  
(Agricultural machinery industry)

KOROTKOV, A.G.; NAZARENKO, P.V.

Tasks in expanding the production of forging machines and presses.  
Sel'khoz mashina no.5:22-25 My '57. (MLRA 10:5)  
(Forging machinery)

KOROTKOV, A.G., inzhener.

The founding industry abroad. Sel'khoz mashina no.10:29-32 C '57.  
(MLRA 10:9)

(Founding)

KOROTKOV A.G.

25(1) NAME I DOK MENTATION 007/1000  
 Vasilievskiy, P. P., I. B. Gulyayev, P. P. Ivanov, V. P. Iod, I. P. Baryev,  
 G. I. Ertshin, A. I. Gulyayev, A. I. Kuznetsov, N. A. Mikhalev, P. G.  
 Petrov, and N. A. Sidorov.  
 Litopisnyy sbornik: 5-ya Mezhdunarodnaya vysshaya literaturno tekhnicheskaya  
 konferentsiya (Fifth International Scientific and Technical Conference of  
 Foundry Technology and the Foundation of the PM and GIM) Moscow, Moscow, 1956.  
 228 p. 3,500 copies printed.  
 M. I. P. P. Vasilievskiy, M. of Publishing House: A. I. Gulyayev, Engineer; P. P. Iod, M.  
 A. I. Kuznetsov, Engineer; N. A. Mikhalev, Engineer; P. G. Petrov, Engineer;  
 N. A. Sidorov, Engineer.  
 PURPOSE: The purpose of this book is to acquaint readers with new developments in  
 foundry technology as presented at the 5th International Congress of Foundrymen  
 held in Hannover, Germany in 1956.  
 CONTENT: The Soviet delegation under the leadership of P. G. Petrov, Engineer, and  
 his deputy B. P. Ivanov, along with other engineers, attended the Congress of  
 Foundrymen and the Foundry Exhibition held in Hannover September 1 to 9,  
 1956. In this book the delegates present a joint report on the state of art in  
 the foundry and research institutions which they visited. The book contains many  
 photographs and diagrams of the machinery and equipment used in foundries and  
 technical sketches of finished foundry products. Illustrations accompany the  
 technical descriptions and technical data. One chapter deals with leading foundry  
 machines and the other with machine-building plants which produce  
 their own foundry machinery. Another chapter deals with research and scientific infor-  
 mation in foundry technology. The book contains a bibliography of scientific litera-  
 ture in foundry technology. The authors attempt to evaluate foreign methods and techniques and compare them  
 with their own. There are no references.  
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 processes in foundry  
 2. Equipment for the preparation of molten compounds  
 3. Mold-making machines  
 4. Core-making machines  
 5. Sand fillers  
 6. Machines for casting in shell molds  
 7. Pressure casting machines  
 8. Molding equipment  
 9. Steam-out and cleaning equipment  
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**Automobiles Planted  
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- [illegible]

2/5 PM

**Ch. VI. Evolving of Laundry Business and the Level of Scientific Research Work in the Laundry Industry in West and East Germany**

- Faculty Institute of the Rhein-Westphalia Technical College  
(Aachen, West Germany)**  
**East German Scientific Research Institute (Dresden)**

- Faculty Institute of the Freiberg Mining Academy (East Germany)**  
**East German Scientific Research Institute "Central Institute**

## Summary

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**2019**



KOROTKOV, A.G., inzh.

Mold and core making machines. Trakt. i sel'khoz mash. no.1:45-48  
Ja '58. (MIRA 11:4)

(Molding machines)

KOROTKOV, A.G.; MAGRILOVA, I.M.

New substitute for ethyl silicate. Trakt.1 sel'khoz mash. no.6:  
47-48 Jo '59. (MIRA 12:9)  
(Silicates) (Foundry machinery and supplies)

KOROTKOV, A.G.

Technology of radial forging in the manufacture of graduated shafts  
and axles. Trakt. i sel'khoz mash. 31 no.12:29-31 D '61.

(MIRA 15:1)

1. Nauchno-issledovatel'skiy institut tekhnologii traktornogo i  
sel'skokhozyaystvennogo mashinostroyeniya.

(Axles)

RABINOVICH, I.P.; KOROTKOV, A.G.; DREVIATNIK, P.P.

Control of the mechanical properties of gray pig iron by a method  
which involves mixing with liquid steel. Trakt. i selkhoz mash.  
32 no.3:39-40 Mr '62. (MIRA 15:2)  
(Cast iron--Metallurgy)

KOROTKOV, A.G.; MIRINGOF, A.S.; KREMNEV, L.A.

Producing molds from sand-clay mixtures by the high pressure method. Trakt. i sel'khoz mash. 31 no.11:39-44 N '61.

(MIRA 14:12)

1. Nauchno-issledovatel'skiy institut tekhnologii i traktornogo i sel'skokhozyaystvennogo mashinostroyeniya.

(Molding(Founding))

(Sand, Foundry)

(Clay)

KOROTKOV, A.G., inzh.; KUZNETSOV, A.A., inzh.

Using castings from light nonferrous alloys. Trakt. 1  
sel'khoz mash. 33 no.10:41-43 O. '63. (MIRA 17:1)

1. Nauchno-issledovatel'skiy institut tekhnologii traktor-  
nogo i sel'skokhozyaystvennogo mashinostroyeniya.

DREVETNYAK, P.P.; KOROTKOV, A.G.; TOROPOV, A.I.; BARANOVA, N.B.

Fatigue strength of the cast crankshafts of the SMD-14 diesel engines.  
Trakt. i sel'khoz mash. no.7:35-36 J1 '65. (MIRA 18:7)

1. Nauchno-issledovatel'skiy institut tekhnologii traktornogo i sel'skokhozyaystvennogo mashinostroyeniya (for Drevetnyak, Korotkov).
2. Zavod "Serp i molot" (for Toropov).

SOV/124-58-11-12893

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 11, p 147 (USSR)

AUTHORS: Korotkov, A. I., Korotkova, L. Yu.

TITLE: Comparative Evaluation of the Calculation of the Nonuniform Motion of Ground Water Over a Plane Sloping Impervious Foundation Layer According to the Methods of N. N. Pavlovskiy, G. N. Kamenskiy, and Chzhan Chzhun-in'. (Sravnitel'naya otsenka rascheta neravnomernogo dvizheniya gruntovykh vod pri ploskom naklonnom vodoupore po metodam N. N. Pavlovskogo, G. N. Kamenskogo i Chzhan Chzhun-inya)

PERIODICAL: Sb. nauchn. rabot stud. Leningr. gorn. in-ta, 1957, Nr 2, pp 13-20

ABSTRACT: A comparative evaluation of the three calculation methods relative to the nonuniform motion of ground water over a plane sloping impervious foundation layer. The problem is treated as a plane problem provided the foundation soil is uniform. A comparison is made of the computations of the reduced flow rate according to the formula of N. N. Pavlovskiy and the simpler formula of Chzhan Chzhun-in' (Zap. Leningr. gorn. in-ta, 1956, Vol 32, Nr 2; RZhMekh, 1957, Nr 3, abstract 3280) for the following numerical values:

Card 1/2



SOV/124-58-11-12893

Comparative Evaluation of the Calculation of the Nonuniform Motion (cont.)

$i \ell = 1, 10, 30 \text{ m}$ ;  $h_1 = 5 \text{ and } 10 \text{ m}$ ;  $1 \text{ m} \leq h_2 \leq 35 \text{ m}$ , where  $i$  is the slope of the impervious foundation,  $\ell$  is the length of the segment under investigation, and  $h_1$  and  $h_2$  are the thicknesses of the flow in the initial and terminal sections. In the 30 examples examined (for segments of declining and rising free seepage surface and for the case of a rising slope of the impervious foundation), which comprise the more typical actually possible cases, the divergence of the results constitutes less than 3%; only for  $i \ell = 30 \text{ m}$  does it attain 5%. It is demonstrated that the inconsistencies between the results obtained by the methods of N. N. Pavlovskiy and Chzhan Chzhun-in' would remain of the same magnitude for any ground-water flow with the same permeability coefficients, the same flow thicknesses, and the same values of the product  $i \ell$  (the elevation of the high point of the impervious foundation above its low point). A methodical refinement of the construction of the line of seepage according to the Chzhan Chzhun-in' method is proposed. An analysis is performed of the relative differences of the results obtained by means of the approximate formula of G. N. Kamenskiy and the formula of Chzhan Chzhun-in', on the basis whereof the limits of applicability of the G. N. Kamenskiy formula are then established.

P. F. Fil'chakov

Card 2/2

31255

S/207/61/000/005/015/015  
D237/D303

11.0200 also 3108, 3008

AUTHORS: Adushkin, V.V., and Korotkov, A.I. (Moscow)

TITLE: Parameters of a blast wave near the charge, during a detonation in air

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 5, 1961, 119 - 123

TEXT: The aim of this experiment was to measure the following parameters of a blast wave: frontal pressure  $\Delta p$ , impulse  $I$ , time of duration  $\tau_+$  and length  $\lambda$  of compression phase, at the distance higher than  $5r_0$  ( $r_0$  - initial radius of the charge). The measurements were taken of  $\Delta p = f(t)$  at the given distance, using piezo-electric pressure gauges and oscillographic recording. The impulse

$$I = \int_0^{\tau_+} \Delta p(t) dt \quad (3)$$

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S/207/61/000/005/015/015  
D237/D303

Parameters of a blast wave near ...

was found by measuring the area of the oscillogram under the trace and the results tabulated. At the distance of 13 to 15  $r_0$ , a maximum was observed for the impulse which is not accounted for in M. A. Sadovskiy's (Ref. 1: Sb. Fizika vzryva, publ. AN SSSR, 1952, no. 1) empirical formula

$$\Delta p = 0.85 \frac{C^{4/3}}{R} + 3.0 \frac{C^{2/3}}{R^2} + 8.0 \frac{C}{R^3}, I = 20 \frac{C^{2/3}}{R}, \tau_+ = 1.2 C^{1/6} R^{1/2} \quad (1)$$

where  $C$  is in kg of explosive,  $R$  in meters,  $\Delta p$  in  $\text{kg/cm}^2$ ,  $I$  in  $\text{kg sec/m}^2$ ,  $\tau_+$  in m/sec.  $\Delta p$  was found to agree with (1) for the distances beyond 18-20  $r_0$ . At lower distances the deviation was significant.  $\tau_+$  was found to agree with (1) at distances over 1.3 m and in the region of 11-13  $r_0$ , it diminishes by 3.5 times. In the 11-7  $r_0$  region,  $\tau_+$  remains practically constant. Hence the authors define two regions, first where the distance  $< 11-13 r_0$ , and second

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S/207/61/000/005/015/015

D237/D303

Parameters of a blast wave near ...

where the distance  $> 11-13 r_0$ , and note that (1) is true only in the second case. The role played by the air is noted and finally the wavelength of the blast wave is discussed. and the methods used for its determination. The results are presented graphically. There are 7 figures and 9 references: 7 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: H.L. Brode, Blast wave from a spherical charge. The physics of fluids. March-April, 1959, v. 2, no. 2; H. Jones, and A.R. Miller, The detonation of solid explosives. Proc. Roy. Soc., 1948, v. 194, pp. 480.

SUBMITTED: June 12, 1961

Card 3/3

ADUSHKIN, V.V. (Moskva); KOROTKOV, A.I. (Moskva)

Parameters of a shock wave forming near an explosive charge  
detonated in the air. PMTF no.5:119-123 S-0 '61. (MIRA 14:12)  
(Shock waves)  
(Explosions)

KOROTKOV, A.I.

Brackish springs in the Ravan' Valley of Leningrad Province.

Izv.vys.ucheb.zav.; geol. i razv. 6 no.11:114-117 N '63. (MIRA 18:2)

1. Leningradskiy gornyy institut im. G.V.Plekhanova.

KOROTKOV, A.I.

Some characteristics of the chemical composition of surface waters in the lowland of the El'men' Lake region. Izv. vys. ucheb. zav.; geol. i razv. 6 no.12:105-116 D '63 (MIRA 18:2)

1. Leningradskiy gornyy institut im. G.V.Plekhanova.

BELYAYEV, A.F. (Moskva); KOROTKOV, A.I. (Moskva); SULIMOV, A.A. (Moskva)

Effect of pressure on disturbances of the combustion stability  
of porous explosives. PMTF no.5:117-120 S-0 '63. (MIRA 16:11)

1. Institut khimicheskoy fiziki AN SSSR.



BELYAYEV, A.F.; KOROTKOV, A.I.; PARFENOV, A.K.; SULIMOV, A.A.

Burning velocity of some explosives and mixtures at considerably increased pressures. Zhur.fiz.khim. 37 no.1:150-156 Ja '63.  
(MIRA 17:3)

1. Institut khimicheskoy fiziki AN SSSR.

KOROTKOV, A. I.

PA 196789

USSR/Metals - Castings, Investment  
Method

Jun 51

"Mechanized Shop for Precision Casting," A. I.  
Korotkov, I. V. Kuyvetsov,

"Litey Proizvod" No 6, pp 2-4

Describes mechanization of technological operations in manufg castings for separators at First State Bearing Plant imeni L. M. Kaganovich. Foundry for investment casting, about 400 sq m in area, produces 100 tons/yr of brass or steel castings of intricate shape with wt 500 g each.

196789

KOTEL'NIKOV, V.A.; KOBOTKOV, A.I.

Accelerated table shifting for the 742 mortising machine. Inform.  
(MLRA 9:7)  
tekhn. sbor. no. 1-25-27 '54.

1. Novo-Kranatorskiy mashinostroitel'nyy zavod imeni Stalina, g.  
Elektrostal'. (Machine tools)

KOROTKOV, A. I.

USSR/Miscellaneous - Foundry processes

Card 1/1 : Pub. 61 - 1/23

Authors : Korotkov, A. I.

Title : The Technology of casting in jacket-type split moulds

Periodical : Lit. proizv. 4, 1-3, July 1954

Abstract : Casting in jacket-type split moulds is considered one of the progressive foundry processes. The numerous advantages of split mould casting, in comparison with the ordinary casting in raw sand forms, are listed. The requirement for moulding and core materials for such type casting is reduced by 80%. Split mould casting offers the possibility of casting thin-walled objects, considerable reduction in machine weight and metal economy. Graphs; drawings; illustration.

Institution : ...

Submitted : ...

1  
H. I.  
Mechanized Equipment for the Production of Shell Moulds.  
A. Korotkov. (Lifelines Proizvodstvo, 1955, (5), 2-10) [In  
Russian]. An account is given of a recently developed instal-  
lation for the mechanized production of shell moulds, based  
on free filling by bunker inversion. Best results were obtained  
with a new resin-sand mixture containing furfural as the  
setting agent. —A. K. *metal*

27

KOROTKOV, A.I., inshener.

Automatization of casting in shell molds in the United States and  
in England. Lit.proizv. no.1:13-16 Ja '56. (MIRA 9:5)  
(United States--Shell molding (Founding)) (Great Britain--Shell  
molding (Founding))

~~KOROTKOV, A. I.~~ inzhener.

New foundry for shell melding. Lit. preizv. no. 4:4-8 Ap '56.  
(Shell melding (foundry)) (MLRA 9:7)

KOROTKOV, A. I.

4E2C

15 18 18  
~~Handing composition for casting mold mix. B. A. Kor-~~  
~~otkov, A. I. Bogdanov, and M. I. S. Kim~~  
~~U.S.S.R. 193,037, Mar. 25, 1957. The bonding substance is~~  
~~made with condensation products of aldehydes with phenols.~~  
~~derived from the semicoking or shale or bituminous. To ob-~~  
~~tain a strength of not less than 20 kg/cm<sup>2</sup>, a sample~~  
~~consists of the cementing substance containing 100~~  
~~parts of formula (1) and 1 part of formula (2).~~  
~~compn. is made of phenols 100 parts, HCl (sp. gr. 1.19) 10 parts,~~  
~~phenols 100, furfural 31, Ba(OH)<sub>2</sub> 1.42, and H<sub>2</sub>SO<sub>4</sub> (sp. gr. 1.84) 25 parts by wt.~~

EW 10/10/57



KOROTKOV, A.I., inzhener.

rapid preparation of a plated mold mixture. Lit. prozv. no.2:4-5  
(MLBA 10:4)  
F '57.  
(Shell molding (Founding)) (Sand, Foundry)

KOROTKOV, A.I.; PRMOBRASHENSKIY, Yu.A., otv.za vypusk; BAKAKIN, P.I.,  
red.; GRAKOVA, Ye.D., tekhn.red.

[Technology of casting in shell molds; a guide] Tekhnologiya  
lit'ia v obolochkovye formy; rukovodiashchie materialy. Moskva,  
Otdel tekhn.propagandy, 1958. 62 p.

(MIRA 13:12)

1. Moscow. Nauchno-issledovatel'skiy institut tekhnologii avto-  
mobil'noy promyshlennosti.  
(Shell molding (Founding))

SOV-128-58-10-9/19

AUTHOR:

Korotkov, A.I.

TITLE:

Automatic Equipment for Casting in Shell Molds (Avtomaticheskoye oborudovaniye dlya lit'ya v obolochkovyye formy)

PERIODICAL:

Liteynoye Proizvodstvo, 1958, Nr 10, pp 18 - 22 (USSR)

ABSTRACT:

NIITAvtoprom (NIITAvtoprom), and its branch in Minsk, have studied shell-mold casting in the machine building industry and came to the conclusion that its effectiveness depends largely on special equipment and the level of mechanization and automation of the casting process. Among the equipment suggested, is a mixer for the preparation of the sand-resin mixture (fig. 1), an automatic machine for the manufacture of shell half molds (fig. 2), a machine for the manufacture of shell cores (fig. 3), a high-frequency press for cementing the shell half molds together (fig. 5), a device for pushing out the castings (fig. 7) and a setup for the regeneration of the quartz sand (fig. 8). The devices are described in detail and performance data is given. In the development of the technological process of the high-frequency press being used in the Kiyevskiy mototsikletnyy zavod (Kiyev Motorcycle Plant) assistance was rendered by the Nauchno-issledovatel'skiy in-

Card 1/2

ALEKSANDROV, R.G.; BARBASHINA, Ye.G.; BAS'KO, K.P.; VARTAN'YAN, A.S.; VASILEV-  
SKIY, P.F.; GLAGOLEVA, L.A.; DUBININ, N.P., prof., doktor tekhn. nauk;  
KONSTANTINOV, L.S.; KOROTKOV, A.I.; LESNICHENKO, V.L.; PANFILOV, Ye.A.;  
TRUBITSYN, N.A.; TUCHKEVICH, N.M.; FADEYEV, A.D.; FOKIN, G.F.; MARTENS,  
S.L., inzh., red.; SOKOLOVA, T.F., tekhn. red.

[Steel casting; foundrymen's handbook] Stal'noe lit'e; spravochnik  
dlia masterov liteinogo proizvodstva. Moskva, Gos. nauchno-tekhn. izd-  
vo mashinostroit. lit-ry, 1961. 887 p. (MIRA 14:8)  
(Founding)

KOROTKOV, A.I., inzh.; POLEVAYA, A.M., inzh.; SHKLENNIK, Ya.I., kand.  
tekhn. nauk, retsenzent; OZEROV, V.A., kand. tekhn.nauk, red.;  
OSIPOVA, L.A., red. izd-va; EL'KIND, V.D., tekhn. red.

[Casting in shell molds] Lit'e v obolochkovye formy. Moskva,  
1963. 299 p. (MIRA 16:7)  
(Shell molding (Founding))

PHASE I BOOK EXPLOITATION

SOV/6513

Korotkov, A. I. , and A. M. Plevaya.

Lit'ye v obolochkovyye formy (Shell-Mold Casting) Moscow, Mashgiz, 1963.  
299 p. (Series: Inzhenernyye monografii po liteynomu proizvodstvu)  
4300 copies printed.

Reviewers: A V. Baranov and Ya. I. Shklennik, Candidate of Technical Sciences;  
Ed.: V. A. Ozerov, Candidate of Technical Sciences; Ed. of Publishing House:  
L. A. Osipova; Tech. Ed.: V. D. El'kind; Managing Ed. for Literature on  
Hot-Working of Metals: L. A. Osipov, Engineer.

PURPOSE: This book is intended for engineering personnel of foundry. It may  
also be useful to students of machine-building schools of higher technical  
education.

COVERAGE: The book describes the process of shell-mold casting and special  
features of making shell molds with thermosetting resins as bonding material.

Card 1/9

PHASE I BOOK EXPLOITATION

SOV/6513

Korotkov, A. I., and A. M. Plevaya.

Lit'ye v obolochkovyye formy (Shell-Mold Casting) Moscow, Mashgiz, 1963.  
299 p. (Series: Inzhenernyye monografii po liteynomu proizvodstvu)  
4300 copies printed.

Reviewers: A V. Baranov and Ya. I. Shklennik, Candidate of Technical Sciences;  
Ed.: V. A. Ozerov, Candidate of Technical Sciences; Ed. of Publishing House:  
L. A. Osipova; Tech. Ed.: V. D. El'kind; Managing Ed. for Literature on  
Hot-Working of Metals: L. A. Osipov, Engineer.

PURPOSE: This book is intended for engineering personnel of foundry. It may  
also be useful to students of machine-building schools of higher technical  
education.

COVERAGE: The book describes the process of shell-mold casting and special  
features of making shell molds with thermosetting resins as bonding material.

Card 1/8

Shell-Mold Casting

SOV/6513

Problems of mechanization and automation of technological processes, organization of shops specializing in shell-mold casting, economic aspects of production, and safety precautions in connection with the use of thermosetting resins are also discussed. The book is the first Soviet attempt to summarize and systematize results of extensive work in research and design by the authors and by other research workers on the subject of shell-mold casting. No personalities are mentioned. There are 77 references: 67 Soviet, 9 English, and 1 German.

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Ch. I. Molding Materials	11
Sand	11
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ACCESSION NR: AP4019516

S/0076/64/038/002/0331/0333

AUTHORS: Sulimov, A.A. (Moscow); Korotkov, A.I. (Moscow)

TITLE: Effect of high temperature gaseous phase on the combustion rate of nitroglycerine powder

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 2, 1964, 331-333

TOPIC TAGS: nitroglycerine powder, powder combustion rate, nitroglycerine, high temperature gaseous phase, pyroxylin

ABSTRACT: The question of how the gaseous phase of burning powder influences the combustion rate is yet unclear. Therefore, the authors undertook tests, burning two thin rectangular plates of nitroglycerine powder or of pyroxylin separated by a gap of 1 x 10 mm and sandwiched between two plexiglass plates. The two plates were placed in a bomb with nitrogen and ignited with black powder. Burning was recorded on a movie film. It was found that when the gap was small (its width less than twice the distance from the surface to the maximum temperature zone) there was a decreasing rate of burning as compared to the normal rate which is explained by the

Card 1/2

KOROTKOV, A. I.

Oxidation-reduction potential of medium in preservation of  
spermatozoa and vitality of progeny. Zh. obsh. biol., Moskva  
13 no.2:122-138 Mar-Apr 1952. (CIBL 22:2)

1. Of the All-Union Scientific-Research Institute of Animal  
Husbandry, Department of the Biology of Reproduction.

KOROTKOV, A. I.

LEBEDEVA, V.A., laborant; SOKOLOVSKAYA, I.I., doktor biologicheskikh nauk, professor; DROZDOVA, L.P., kandidat biologicheskikh nauk; GOLYSHOVA, M.G., kandidat biologicheskikh nauk; KOROTKOV, A.I., kandidat biologicheskikh nauk; MAKSIMOV, Yu.L., sootekhnik.

Importance of antibiotics, sulfa drugs and vitamins in preserving semen. Izv. TSKhA no.2:193-214 '56. (MLRA 9:12)

(Semen) (Antibiotics) (Vitamins)

USSR / General Biology, Individual Development.

B

Abs Jour : Ref Zhur - Biol., No 19, 1958, No 35573

Authors : Sokodovskaya, I. I.; Drozdova, L. P.; Golyshova,  
A. G.; Korotkov, A. I.; Maksimov, Yu. V.;  
Lebedeva, V. A.

Inst : All-Union Academy of Sciences imeni V. I. Lenin  
Title : Improvement of Medium for Sperm of Farm Animals.

Orig Pub : Dokl. VASKhNIL, 1956, No. 7, 17-24

Abstract : Addition to media for sperm of 200-1,000 units  
of potassium salt of penicillin, 200 units  
streptomycin chloride, 1 mg white streptocide,  
and combination of these substances or 2.5% gly-  
cerin to 1 ml of bull's or ram's sperm inhibits  
the growth of saprophyte microflora, while at  
the same time preserving sperm mobility and  
their impregnation capacity when samples are .

Card 1/2

Korotkov, A. I.

Q-3

USSR/Farm Animals - Cattle.

Abs Jour : Ref Zhur - Biol., No 7, 1958, 30967

Author : Korotkov A. I.

Inst :

Title :

The Fertilization of Cows at Different Degrees of the Dilution of Semen.  
(Oplodotvoryayemost' korov pri raznykh stepenyakh razbavleniya spermy).

Orig Pub : Sots. tvarinnitstvo, 1957, No 3, 45-46

Abstract : The semen of the freshly obtained ejaculum was diluted 2, 4, 8, 16, and so forth, up to 1,024 times by the glucose-yolk-citrated diluent; it was stored at a temperature of 0°C and sent to the kolkhozes at a distance of 30-170 km. The insemination of cows was effected by semen diluted up to 64 times and stored for not more than 3 days. At such degrees of dilution, the percentage of conception varied only slightly (from 70 to 75%);

Card 1/2

- 50 -

KOROTKOV, A.I.

Role of the discharge of artesian waters in the formation of the  
flow of ions from a large area. Dokl. AN SSSR 150 no.6:1344-1346  
Je '63. (MIRA 16:8)

1. Leningradskiy gornyy institut im. Plekhanova. Predstavleno  
akademikom N.M.Strakhovym. (Water--Composition)

KOROTKOV, A.I., kand. biolog. nauk; MOSKOVY, V.I., zasluzhennyy zootekhnik  
Moldavskoy SSR

Green forage for winter rations. Veterinariia 41 no.2:82  
F '64. (MIRA 17:12)

1. Moldavskiy nauchno-issledovatel'skiy institut shivotnovodstva i  
veterinariii (for Korotkov).

KOROTKOV, A.I.

Determining the static level from the yield of free-flowing wells.  
Razved. i okh. nedr 30 no.12:49-50 D '64.

(MIRA 18:4)

1. Leningradskiy gornyy institut.



KOROTKOV, A.I., aspirant

New data on the chemical composition of ground waters in the  
Chudovo region. Izv. vys. ucheb. zav.; geol. i razv. 6 no.5:  
109-111 My '65. (MIRA 18:10)

1. Leningradskiy gornyy institut imeni Plekhanova.

AUTHOR: Korotkov, A.M.

SOV-113-58-9-8/19

TITLE: An Investigation of the Thermal State of Cylinder Heads and Pistons of Automobile Carburetor Engines (Issledovaniye teplovogo sostoyaniya golovok tsilindrov i porshney avtomobil'nykh karbyuratornykh dvigateley)

PERIODICAL: Avtomobil'naya promyshlennost', 1958, Nr 9, pp 19-23 (USSR)

ABSTRACT: The heat exchange processes in internal combustion engines are important for theory, design and exploitation, since 50 to 60% of the heat generated at fuel combustion takes part in the heat exchange. But these processes are not sufficiently considered in engine design and construction. In order to clarify the character and degree of the influence of diverse exploitation factors and dimensions of the cylinder on the thermal state of its parts, experimental investigations of the thermal state of pistons and cylinder heads of 3 engines of diverse dimensions were made. The test engines ZIL-121, GAZ-51 and MZMA-401 had the same compression degree of 6.1. The aluminum cylinder head of the GAZ-51 engine was exchanged for a cast-iron one so that the 3 engines would be uniform. Uniformity of testing and measuring equipment was provided. The basic design data of the com-

Card 1/3

SOV-113-58-9-8/19

An Investigation of the Thermal State of Cylinder Heads and Pistons of Automobile Carburetor Engines

bustion chambers of the engines is tabulated (Table 1). The mean temperature in each engine was measured at four points of the piston and the cylinder head (Figure 1). The fixing depth of the thermocouples in the parts from their surfaces on the side of the combustion chamber was 1.5 mm with the ZIL-121, 1.2 mm with the GAZ-51 and 1 mm with the MZMA-401. The influence of the thermal inertia of the parts was excluded by measuring only after a continuous thermal value of 5 minutes. The temperature was determined by the zero method; in the cylinder heads by aid of an ordinary potentiometer, in the pistons by thermocouples with periodical switching-in. The results are represented in Figures 3-9. The character of the temperature exchange, depending on the coefficient of excess air, is the same for all 3 engines. Evaluation of cooling water influence, inertia of parts at changed engine operation and diverse dimensions is presented by formulae.

Card 2/3

KOROTKOV, A.N.; BEREZNEV, V.N.; YURKOVSKIY, A.Ye.; BUTENKO, V.A.; GOLUB, A.I.;  
DUDAVSKIY, I.Ye.; KOLESNIK, M.I.; SOKOLOV, I.N.; MASLOV, V.D.

Increasing the stability of arches and walls of large-capacity  
steel-smelting electric furnaces at the "Dneprospetsstal'" Plant.  
Stal' 23 no.3:222-224 Mr '63. (MIRA 16:5)

1. Zavod "Dneprospetsstal'", Zaporozhskiy zavod ognеuporov i  
Proyektnyy institut i inspektsiya po sluzhbe i kachestvu  
ogneuporov.

(Electric furnaces--Design and construction)  
(Zapprozh'ye--Iron and steel plants)

ABRAMOV, S.A., inzh.; ALIFANOV, I.N., inzh.; KARPOV, A.F., inzh.;  
KOROTKOV, A.P., inzh.; KOLOSOV, B.P., inzh.; KUZNETSOV,  
V.S., inzh.; NIKONOV, G.V., inzh.; REPIN, M.I., inzh.;  
SEMENYUCHENKO, G.P., inzh.; SLOBODSKOY, L.M., inzh.;  
TSUKANOV, Ye.V., inzh.; SHIFRIN, M.G., inzh.; BOL'SHAKOV,  
A.S., inzh., retsenzent; KISELEVA, N.P., inzh., red.;  
USENKO, L.A., tekhn. red.

[11D45 diesel locomotive] Teplovoznii dizel' 11D45. Moskva,  
Transzheldorizdat, 1963. 95 p. (MIRA 16:7)  
(Diesel locomotives)

9.4310 (1139,1143,1159,1150)

31836  
S/194/61/000/010/056/082  
D239/D301

AUTHORS: Anokhin, B.G., Glebov, G.Ts., Korotkov, A.S. and Skorik, K.I.

TITLE: Technology for preparing p-n alloy junctions and a study of their properties

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 10, 1961, 14, abstract 10 D87 (V sb. Poluprovodnik pribory i ikh primeneniye, no. 6, M., Sov. radio, 1960, 143-153)

TEXT: The technology of making n-p-n structures by the alloy method is described, by virtue of which exact specific resistivities can be obtained for the emitter, collector and base-regions and simplified control of the thickness of the base layer. Transistors prepared in this way exhibit good reproducibility of electrical characteristics and work in a frequency range of several mc/s. The use of alloying in conjunction with melt-back enables one to make

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Technology for preparing p-n alloy...

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$p^+$  -n-n $^+$  and n $^+$  -p-p $^+$  structures. An arrangement is described for pulling germanium monocrystal in the specified way, with p-n junctions the methods reduce to the grown-junction method. A study is made of the electrical parameters of structures of  $p^+$  -n-n $^+$  and n $^+$  -p-p $^+$  which are indispensable for preparing high sensitivity devices with carrier-injection in the space-charge region. The distribution of impurities in the intermediate layer is evaluated by curves of junction-capacity against potential. Evaluation of the width of the intermediate layer and the distribution of electric field in the neighborhood of the locking layer of a p-n junction is made by potential distribution curves. The specific resistivity of the germanium in this layer lies in the range 5 to 20-30 ohm.cm. The width of this layer is about 20-40 microns. [Abstracter's note: Complete translation]

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33340

S/181/62/004/001/006/052

B102/B138

18.9500 1043 1143

AUTHORS: Medvedev, M. A., Anokhin, B. G., Skvortsov, I. M.,  
Korotkov, A. S., and Myakinenkova, E. V.

TITLE: Peculiarities in the growth, twinning and structure of  
germanium dendrites and abnormal impurity segregation in  
the process of dendritic crystallization

PERIODICAL: Fizika tverdogo tela, v. 4, no. 1, 1962, 36 - 43

TEXT: The optimum conditions for growing long dendritic germanium  
crystals were studied. The twin structure of real dendrites was deter-  
mined and complete agreement was found between the twin structure of seeds  
and of crystals grown from them. Impurity segregation coefficients and  
the distribution of impurities were measured. The dendrites were grown by  
the Czochralski method (rate of linear growth 10 - 15 cm/min) and were  
150 - 300  $\mu$  thick, 1.5 - 3 mm wide and 400 mm long. They were produced  
with varying impurity concentrations, surface perfection and thickness.  
They could be divided into 4 groups according to twinning properties:  
(1) Homogeneous twin structure right across; (2) homogeneous twin struc-  
ture, but only in the middle of the dendrite; (3) cross-sectional twin  
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Peculiarities in the growth...

structure but becoming simplified toward the edges; (4) cross-sectional twin structure which becomes more complex toward the edges; up to 32 twins were observed at the edges. Billig's proposition (Acta Metall., 5, No. 1, 1957) that twinning may be caused by impurities was not confirmed: impurity concentrations of up to  $10^{20} \text{cm}^{-3}$  caused no additional twinning effects. However, a higher impurity has an unfavorable influence on the quality of the dendrites. The segregation coefficients were measured for In, Ga, Sb, and B in dependence on their concentration in liquid phase. In each case 5 - 7 measurements were made in the following ranges of concentrations: In:  $2 \cdot 10^{14} - 4 \cdot 10^{19} \text{cm}^{-3}$ , Ga:  $1 \cdot 10^{14} - 6 \cdot 10^{18} \text{cm}^{-3}$ , Sb:  $6 \cdot 10^{13} - 2 \cdot 10^{20} \text{cm}^{-3}$ , B:  $1 \cdot 10^{14} - 4 \cdot 10^{19} \text{cm}^{-3}$ . In, Ga, and Sb show anomalously high segregation coefficients ( $K_{\text{eff}} > 1$ ) at concentrations of  $10^{14} \text{cm}^{-3}$ , which fall smoothly with increasing concentration. At  $10^{18} - 10^{20} K_{\text{eff}}$  of Ga coincides with the equilibrium values.  $K_{\text{eff}}$  of B reaches 0.5 at  $10^{14} - 10^{15} \text{cm}^{-3}$  and drops to 0.03 at  $4 \cdot 10^{19} \text{cm}^{-3}$ . The cross distribution of impurities was determined from the potential distribution, measured by

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S/181/62/004/001/006/052  
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Peculiarities in the growth...

means of probes. The impurities were found to be nonuniformly distributed;  
e. g. for In the concentration ratio  $c_{\text{centr.}}:c_{\text{edge}} \approx 1:10$ . There are  
7 figures and 7 non-Soviet references. The four most recent references  
to English-language publications read as follows: A. Bennet, R. Longini.  
Phys. Rev. 116, No. 1, 1959; D. R. Hamilton, R. G. Seidensticker. J.  
Appl. Phys. 31, No. 7, 1960; R. S. Wagner. Acta Metall., 8, No. 1, 1960;  
J. W. Faust, H. F. John. J. Electrochem. Soc. 107, No. 6, 1960.

SUBMITTED: July 6, 1961

Card 3/3

MEDVEDEV, M.A.; ANOKHIN, B.G.; SKVORTSOV, I.M.; KOROTKOV, A.S.;  
MYAKINENKOVA, E.V.

Some characteristics of the growth of germanium dendrites,  
their twin structure, and the anomalous segregation of  
impurities in dendritic crystallization. Fiz. tver. tela  
4 no.1:36-43 Ja '62. (MIRA 15:2)  
(Germanium crystals)

KOROTKOV, B.

Indifference is a dangerous enemy. Radio no.4:14 Ap '65.

(MIRA 18:5)

1. Predsedatel' komiteta Vsesoyuznogo dobrovol'nogo obshchestva armii, aviatsii i flota SSSR Eksperimental'nogo nauchno-issledovatel'skogo instituta metallorazhushchikh stankov i ordena Lenina zavoda "Stankokonstruktsiya".

KOROTKOV, B.

Answers to readers' questions. Stroitel' no.7:28 JI '58.

(MIRA 11:9)

1. Nachal'nik otdela stroitel'stva i stroymaterialov Komiteta po  
delam izobreteniy i otkrytiy pri Sovete Ministrov SSSR.  
(Wages)

KOROTKOV, B.A., inzh.; RUDOV, Ya.L., inzh.

Centrifuged reinforced concrete supports. Stroi. truboprov. 6 no.6:  
25-26 Je '61. (MIRA 14:7)

1. Trest Benzinoprovodstroy, g. Chelyabinsk.  
(Petroleum-Pipe lines,  
Reinforced concrete)

KOROTKOV, B.A., inzh.; RUDOV, Ya.P., inzh.

Economic efficiency of combining insulation and laying operations.  
Stroi. truboprov. 6 no.9:22 S '61. (MIRA 14:9)

1. Trest Benzinoprovodstroy, g. Chelyabinsk.  
(Gas, Natural--Pipelines)

KOROTKOV, B.A., inzh.

In the name of a communist tomorrow. Stroi.truboprov. 6  
no.10:7 0 '61. (MIRA 14:10)

1. Trest Benzinoprovodstroy, Chelyabinsk.  
(Pipelines)



KOROTKOV, B.A., inzh.

Prepare in good time for winter work. Stroi.truboprov. 7  
no.9:18 S '62. (MIRA 15:11)

1. Trest Benzinoprovodstroy, Chelyabinsk.  
(Pipelines—Cold weather conditions)

KOROTKOV, B.A.; STARKEVICH, V.V.

Building water pipelines in the Virgin Territory. Stroi. trub.  
9 no.7:3-4 J1 '64. (MIRA 17:11)

1. Trest Benzinoprovodstroy, Chelyabinsk.

KOROTKOV, B.I.

Solving the problem of seepage in the case of a "pure channel"  
(with varying types of bottom above and below the structure). Izv.  
Sib. otd. AN SSSR no. 2:33-45 '59. (MIRA 12:7)

1. Novosibirskiy institut inzhenerov zheleznodorozhnogo transporta.  
(Soil percolation) (Dams)

KOROTKOV, B. I., Cand Tech Sci -- (diss) "Evaluation of the role of horizontal means of filtration in designing the underground contours of dams built on uneroded foundations." Leningrad, 1960. 14 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Leningrad Inst im M. I. Kalinin); 150 copies; price not given; (KL, 52-60, 120)

KOROTKOV, B.I., inzh.

Approximate calculation of filtration in the foundation of pressure hydraulic structures under the conditions of an underground profile as represented by the system of "clean" sheeting piles. Trudy NIIZHT no. 22:171-185 '61  
(MIRA 19:1)

KOROTKOV, B.L., inzhener; GORODETSKIY, Yu.B., inzhener.

Slabs used for paving highways. Izobr. v SSSR 2 no.6:11-12 Je '57.  
(Pavements) (MLA 10:8)

KOROTKOV, B.L., inzh.

I.K. Prokhorov and N.G. Romanov's method for making wood materials  
and products. Izobr. v SSSR 2 no.9:20-22 S '57. (MIRA 10:10)  
(Wood waste) (Paperboard)

KOROTKOV, B.L.

KOROTKOV, B.L., inzh.; GORODETSKIY, Yu.B., inzh.

Automatic suction dredging machines. Izobr.v SSSR 2 no.10:15-16  
0 '57 (MIRA 10:11)

(Dredging machinery)